Searching for a living form of platypus in South America

J. Richard Greenwell

British, born 19 October 1942. Secretary of the International Society of Cryptozoology. Educated in the United States and Mexico; Ph.D. (Hons.) from the University of Guadalajara.

International Society of Cryptozoology, P.O. Box 43070, Tucson, Arizona 85733, United States

The Australian duckbilled platypus is unique, being one of only three species within the Order Monotremata, and the only species within the Family Ornithorhynchidae and the genus *horhynchus.* Monotremes are thought to represent the most primitive or archaic forms of mammals. The platypus is an otter-like, fur-bearing, amphibious mammal, about 60 cm in length, which lays eggs and has a duck-like bill. It is native to Australia and, when the first platypus specimen arrived at the British Museum in 1798, it was greeted with utter astonishment. However, it was eventually accepted into the annals of zoology, although a completely new Family and genus had to be erected to accommodate it.

Are platypuses really to be found only in Australia?

New Zealand has the distinction of not harbouring any native terrestrial mammals. All quadrupeds found there were introduced by humans. This is because the New Zealand land mass has been separated from the original Gondwana supercontinent, composed of present day Australia, New Zealand, Antarctica, South America and Africa, for about 80 million years. Thus, if New Zealand did possess any native quadruped mammals, they would be very ancient monotremes, such as a platypus.

Curiously, reports from New Zealand of just such an animal have been made. Known to the native Maori people as *waitoreke*, it was described as quadruped, fur-bearing, about 60 cm in length and amphibious. A number of naturalists over the past century have speculated that such an animal could be a platypus-like monotreme. Unfortunately, no specimen was ever examined, and the problem remains unresolved. The animal could have been killed off by other creatures introduced into its environment or be a product of Maori mythology.

One problem was zoogeographical: there was no actual fossil evidence of monotreme evolution prior to the time New Zealand split away from the Australian land mass. That problem was resolved in the 1980s, when a fossil platypus form

Having demonstrated the existence of the platypus (Ornithorhynchus anatinus) in New Zealand, J. Richard Greenwell has now extended his search to South America. Photo: WWF — Maurice Berney.

was discovered in New South Wales. This finally demonstrated that platypuses existed in Australia prior to the Australia-New Zealand split, making it reasonable to expect their persistence in New Zealand.

Another problem was cultural. Just what does *waitoreke* mean? In 1988, John Colarusso, a linguistic anthropologist, concluded that the term referred to a real animal, and that *waitoreke* specifically meant 'spurred one who sinks into the water or the one of the quill/spur'. It so happens that the male platypus possesses a spur on the inside of the ankle. These conclusions fostered interest in a new search for *waitoreke* in New Zealand; however, more recent events have refocused our attention from New Zealand to South America.

Extending the search to South America

In 1989, Colarusso proposed that fossils of egg-laying mammals, monotreme or otherwise, might be found in various areas of the southern continents, particularly in South America. This startling assertion makes perfect zoogeographical sense. South America was at one time joined to Australia and New Zealand. In fact, since the Australia-Antarctica separation from South America occurred some 50 million years more recently than the Australia separation from New Zealand, it would seem more likely that traces of monotremes would be found in South America than in New Zealand.

The problem is that South America has neither fossil monotreme evidence nor modern observational reports. There would be little purpose in embarking on such a search based on zoogeographical evidence alone. However, two new developments have recently surfaced, which completely change the picture. First, information from BBC producer Michael Andrews indicates that a platypus or platypus form has been reported from an island in Tierra del Fuego, at the southernmost tip of South America. The sighting was made in the 1970s by an amateur naturalist. The second development occurred when Argentine palaeontologists discovered the first monotreme fossil material in South America. The fossil is thought to be 63 million years old, over 30 million years before the Antarctic separation from

South America. Thus, for the first time in zoological history, fossil evidence establishes that platypuses once inhabited South America, that their range extended far north of Tierra del Fuego, and that this occurred long before the continental break-up. Certainly, the fossil and recent eyewitness evidence from southern South America is more compelling to us than the historical reports (which are not supported by fossil evidence) of *waitoreke* from New Zealand.

Plans for fieldwork in Tierra del Fuego

We propose to visit the island and to determine whether it supports an adequate habitat for a platypus population and to search for the presence of platypus forms. Secondary projects will ensure the collection of as much scientific information as possible. I will be accompanied by a zoologist specializing in the ecology of the southern continents together with a mammalogist and palaeomammalogist who will study the presence of mammals on the island and undertake a biological inventory. A geologist and geomorphologist will study the land forms and their relationships to past environments and present habitats.

All scientific information obtained during the expedition will be shared with Chilean and Argentine scientists. Any information will be relayed to the appropriate agencies within the Chilean and Argentine Governments, the International Union for the Conservation of Nature and Natural Resources, and the World Wide Fund for Nature.

The bleak landscape of Tierra del Fuego in southern Patagonia, the southernmost part of South America. One of these islands in Beagle Channel may harbour an as-yet undiscovered species of platypus.